

RICE LAKE

NARRATIVE REPORT

JANUARY - DECEMBER 1965

RICE LAKE NATIONAL WILDLIFE REFUGE

NARRATIVE REPORT

1965

UNITED STATES DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

BUREAU OF SPORT FISHERIES AND WILDLIFE

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I GENERAL

A. Weather Conditions:

	<u>Precipitation</u>			<u>Max.</u>	<u>Min.</u>
	<u>Month</u>	<u>Normal</u>	<u>Snowfall</u>	<u>Temp.</u>	<u>Temp.</u>
January	<u>.37</u>	<u>.633</u>	<u>4.7</u>	<u>38</u>	<u>-41</u>
February	<u>.76</u>	<u>.599</u>	<u>8.0</u>	<u>38</u>	<u>-31</u>
March	<u>2.95</u>	<u>1.239</u>	<u>28.5</u>	<u>40</u>	<u>-28</u>
April	<u>2.13</u>	<u>2.343</u>	<u>7.9</u>	<u>85</u>	<u>23</u>
May	<u>4.37</u>	<u>3.716</u>	<u>-</u>	<u>78</u>	<u>31</u>
June	<u>4.98</u>	<u>4.071</u>	<u>-</u>	<u>85</u>	<u>42</u>
July	<u>1.15</u>	<u>4.440</u>	<u>-</u>	<u>89</u>	<u>43</u>
August	<u>3.15</u>	<u>3.970</u>	<u>-</u>	<u>88</u>	<u>34</u>
September	<u>5.24</u>	<u>2.749</u>	<u>-</u>	<u>77</u>	<u>17</u>
October	<u>2.83</u>	<u>1.575</u>	<u>-</u>	<u>71</u>	<u>21</u>
November	<u>2.28</u>	<u>1.258</u>	<u>16.0</u>	<u>67</u>	<u>2</u>
December	<u>1.78</u>	<u>.725</u>	<u>16.0</u>	<u>40</u>	<u>- 9</u>
Annual Totals	<u>31.99</u>	<u>27.318</u>	<u>81.1</u> Extremes	<u>89</u>	<u>-41</u>

As usual our weather data came from the Government Weather Station at the Sandy Lake Dam, located 23 miles north of refuge headquarters. The moisture listings for months in which snow fell include the precipitation which fell as rain and the snowfalls which were melted for measurement here at refuge headquarters.

The period January through April recorded some very heavy snowfalls. The total snowfall in this period was 49.1 inches and the moisture content measured 6.21 inches. This snowfall added to the amount received in November and December of 1964 set some new records for this part of the country. Although the total precipitation was only 1.396 inches above the normal for this period, this amount added to the moisture received during the fall of 1964 created potential flood conditions before warm weather arrived. Some mighty cold temperatures were also recorded during January, February and March with the minimums being -41° , -31° , -28° , respectively.

May through August saw a very short summer with cool days and cool nights being recorded. Many people in the area were unable to plant croplands or home gardens until the middle of June, due to wet and cold conditions. Although the refuge recorded some of it's highest water levels, precipitation for the period was 2.547 inches below normal.

September through December followed much the same pattern as a year ago when we received heavy rainfalls. Normal precipitation for this period is 6.307 inches. The station moisture gauge recorded 12.13 inches of precipitation or 5.823 inches above normal. At the end of the period water levels in the area are extremely high and the runoff this spring promises to be another heavy one. For the most part the fall period was not too pleasant with below normal temperatures and very little sunshine.

B. Habitat Conditions:

1. Water:

Water management in 1965 was again a matter of excess. Heavy spring runoff and rainfall over saturated soils from the rains of the previous fall provided conditions for one of the worst floods experienced in many years. Refuge water controls both on the lake and on the river were inadequate to handle the heavy flow. Elevations of both rose to over 100.00 feet and all lowlands on the refuge were covered with a sheet of water. The river crested at 100.46 on April 19; the lake at 100.00 on April 20. Damage to refuge roads resulted and the Rice Lake dike was topped and cut out by waters of the Rice River. Heavy runoff continued throughout the summer

and controls were kept wide open during the entire summer except for occasional brief closures of the Rice Lake control to prevent the widely fluctuating Rice River from flowing into the lake. It was not possible to get the lake down to recommended levels at any time during the summer. Water was still standing in the North Bog at the time of freeze-up. Rice Lake was covered with ice on November 10.

2. Food and Cover:

The wild rice crop in 1965 was very light and spotty. High water throughout the spring and summer was detrimental to wild rice growth. During the critical period when rice is normally in the floating-leaf stage the water conditions were far above the desired levels. Much of the rice that was able to emerge was clipped by the Canada geese. It is indicated that if the refuge flock should reach considerable numbers they could cause much damage to wild rice beds, and could possibly even be a limiting factor to its growth on this refuge. Local Indians inspected the rice and decided it was not worth harvest efforts. Other waterfowl foods were in good supply, especially scirpus spp., sagittaria and wild celery (*Vallisneria*). A survey of the aquatic vegetation on the refuge indicated an abundance of many types used by waterfowl for food and cover, some of which were *Elodea c.*, *Ceratophyllum d.*, *Utricularia v.*, *polygonum a.*, *Potamogeton p.*, *Najas f.*, *Sparganium*, *Typha l. & a.*, *Potamogeton z.*, *Lemna m.*, *Alisma p.*, *Bidens f.*, and *Potamogeton g.*

Cover conditions for all wildlife were excellent and natural foods were augmented by cultivated crops. Both waterfowl and other wildlife used refuge fields. Wood ducks again found the flooded willows along the Rice River to be an attractive roosting area. Deer were concentrated on the higher ground during much of the late summer and fall but used the lowlands regularly for travel routes. The bog islands provided both food and cover for these animals.

Goose nesting commenced after peak water levels had been reached and suffered no known setbacks from this cause in 1965. Brush piles pushed up with a bulldozer during the winter months proved more attractive than islands as nesting sites.

II WILDLIFE

A. Migratory Birds:

The movement of waterfowl through the general area of the refuge during the fall of 1965 was light.

1. Whistling Swan:

Whistling swans were present on the refuge the third week of April, during the spring migration. Ten of these birds were seen on Rice Lake which was at the flood stage at that time. The first fall migrants appeared on October 10, with a small group of five on Rice Lake. Small flocks came and departed throughout the remainder of October and the first three weeks of November, but the peak population never exceeded 30 birds. The refuge water areas were frozen over at the time the last migrants were noted over Rice Lake on November 20.

2. Geese:

In spite of extremely high water levels and general flood conditions, 1965 was a good year for nesting Canada geese on the Rice Lake Refuge. High water came prior to actual nesting activities and the birds selected sites which were above the peak water elevations. The most favored sites were brush piles scattered throughout the marsh area. This preference was especially obvious since many small islands and other apparently favorable nesting sites received little use. High water may also have played some part in reducing predation and the production of 200 young geese showed an increase of 25 over the previous year. No nest losses were observed. Clover plantings along the elevated entrance road proved attractive to the geese during the summer months and many vehicles with refuge visitors and sightseers were brought to a halt by these birds on the roadway. An encouraging number of reports of Canadas nesting off the refuge were also received during the summer months. One brood along State Highway 65 brought reports of concern for their safety from several local residents but these birds moved into the refuge after a couple of weeks.

During January there were 38 Canadas remaining on the refuge, either by choice or because they were pinioned. Four of these birds succumbed during the winter months. They were observed in a generally weakening condition over a period of time and temporary treatment in the equipment building proved of little or no benefit. It was determined that these were some of the older, pinioned stock which lacked the vitality to survive another winter. The remainder of the group came through in excellent condition.

The summer peak population of 400 Canadas was 150 more than that of 1964 and indicated a gratifying return of birds from the previous year. Young geese were trapped in the old goose pen area and banded.

The fall peak of 600 Canada geese, though not spectacular, was also an increase of 150 over the previous year. This indicates no increase in migrant birds but merely a carry-over of the summer population. No flights of Canada geese of any consequence were noted over the refuge during the fall migration so it is not unusual that the population did not build up further. Total days' use by large Canada geese increased by 19 per cent over 1964, or from 68,200 to 83,944. Small Canadas showed a total of 275 use days with a peak of 30 birds. None were recorded in 1964.

A small flock of 20 blue and snow geese stopped in at the refuge on April 20, building up to a peak of 200 birds during the following two weeks. Total days' use for that period was 1,680, a considerable increase over the 20 days in 1964 and none in 1963. Ten blue geese remained on the refuge during the first week of May, and two remained throughout the summer months. The first fall migrants appeared on September 12, with 20 blues and snows on Rice Lake. During the last week of September there were 500 snows and 150 blues on the lake. These fed primarily on aquatics in the west end of the lake, using the fields of crops only lightly. The last blue goose departed during the third week of November. This was "Cobhead," the lone blue which has stayed with a group of refuge Canada geese for the past couple of years and in 1965 mated with a Canada. There were no offspring produced by this mating. Fall use by blue and snow geese increased threefold over the past year. Total use for the year increased from 3,870 use days in 1964 to 22,925 use days in 1965. It appears that goose management on this area presently shows better promise for attracting migrant blue and snow geese than for Canadas, which is perhaps normal since the flights of blues and snows at present far outshadow the Canada flights through the refuge vicinity. The harvest of blue and snow geese in this area during the fall of 1965 was relatively good.

The limited opportunity for shooting Canadas was primarily from outside movements of refuge birds, except for a small flight of small Canadas, very few of which used the refuge. It is hoped that management programs can increase the flights of Canadas as well as blues and snows through the refuge area in future years.

3. Ducks:

The spring migration of ducks on the Rice Lake Refuge showed decreased use by mallards, 36 per cent; wood ducks, 83 per cent; redhead, not noted in 1965; ring-necked, six per cent; canvasback, not noted in 1965; scaup, 28 per cent; and common merganser, 80 per cent. Increased use was shown by black ducks, widgeon, pintails, green-winged and blue-winged teal, shovelers, goldeneyes, buffleheads and hooded mergansers. Extremely high water conditions prevailed throughout the month of April when the bulk of the flight was passing through. Peak and total use for the spring of 1965 was 17,700 and 193,220 as compared to 9,980 and 156,653 in 1964. Summer use was down by nearly half for mallards and black ducks. Pintails, wood ducks and ring-necks also showed decreased use in lesser proportions. All other species showed fair to good increases in total days' use. Production for mallards was about one-third that of 1964 but blacks showed equal numbers of young when compared to the previous year. Blue-winged teal young were about one-third fewer but green-wings were up slightly. Wood ducks produced one-third as many ducklings as in 1964; ring-necks increased slightly, and hooded mergansers also showed a slight increase. Water conditions during the nesting period were much higher than would have been desired but heavy runoff and inadequate discharge capabilities hampered the removal of the excess.

The fall migration was a considerable disappointment, not only on the refuge but in this entire general area. Water areas which a year ago had excellent duck use were devoid or nearly so of birds in 1965. Hunters finally gave up on their efforts and it was most unusual to find anyone on areas which are normally heavily hunted. The mallard peak was 3,500 birds as compared to 20,000 in 1964. Blacks peaked at 1,500 in 1965, a drop from 5,000 the previous year. Widgeon were up slightly; pintails increased from 500 to 800 over 1964; greenwings dropped from 2,000 to 500; blue-wings were equal in number at 2,500; shovelers were present in small numbers whereas they were absent in 1964; wood ducks were equal in population at 1,200; redheads remained the same; ring-necks dropped from 15,000 peak to 3,500 this year; canvasbacks rose from 500 to 1,000, one of the more promising observations; scaup showed a peak of 1,000 as compared to 7,000 in 1964; goldeneyes and buffleheads were present in the usual small numbers late in the season, as were common mergansers but the usual small increase of hooded mergansers was not noted this year.

Of unusual interest is the fact that total summer use figures exceeded the fall use. Total duck days use for 1965 totaled

1,357,488, or less than the normal use for the fall period alone. The 1964 total was 2,651,153 days' use.

4. Coots:

Coots were present during the last two weeks of the spring period with a peak of 200 birds noted. The normal summer population was about 100 coots, with a rise to 200 again near the end of August. This summer level was about one-half that of the previous year. During mid-October there were approximately 1,000 coots on the refuge waters as compared to 7,000 in 1964. This ties in with the very light waterfowl movements noted through this general area during the fall of 1965. Total days' use of the year was 55,790. In 1964 this total was 222,983.

5. Other Water Birds:

Common loons were present in small numbers during the spring migration and the usual pair spent the summer on Mandy Lake. Horned grebes were very uncommon but single observations were made in April. Pied-billed grebes were fairly common throughout the spring through early fall, with fair concentrations of up to 200 of these birds noted in April. Great blue herons again nested on the island in Rice Lake and were commonly noted over the entire refuge during the spring through fall. Cormorants did not nest on the island and no observations of this species were recorded. American bitterns, sora and Virginia rails were again fairly common residents of the refuge. A pair of sandhill cranes spent the summer on the refuge as they have in recent years, being heard much more often than seen. It was a real pleasure to observe a group of five during early October, the highest number seen in recent years. The least bittern was an uncommon summer resident and two white pelicans made a visit of several days during mid-June, an unusual species for this area.

6. Shorebirds, Gulls and Terns:

No woodcocks were seen or heard during census runs in the spring and none were noted nesting on the refuge this year. This is an unusual situation for the refuge and no explanation was found. During mid-October a small flight of these birds used the refuge for a brief period of time. Common snipe were especially numerous this year throughout the refuge. In early fall the concentrations on the refuge goose pen area numbered several hundred. This common status existed in areas adjacent to the refuge also. Golden plovers were again seen this past fall in the Rice Landing area. Killdeers were

probably the most common birds of this group observed on the refuge. They remained from early spring until well into the fall. Spotted, least and pectoral sandpipers were present in small numbers, especially during September. Lesser yellowlegs were fairly common. Common and black terns used the refuge in fair numbers, remaining well into September. Ring-billed gulls were fairly common during the summer and a small number of herring gulls used the refuge during the fall. Early spring concentrations of gulls occurred at the sites of winter fish rescue traps where rough fish were discarded.

B. Upland Game Birds:

The small number of ring-necked pheasants that were able to survive the fairly open winters of the past few years apparently were not equipped for the conditions during 1965 when prolonged extreme cold weather and deep snows prevailed. None of these birds came through the winter and none were observed to have moved into the refuge during the summer. The deep snows were no problem for the native ruffed grouse which fed on buds and roosted in the snow. These birds came through in good condition and a slight increase was noted in 1965. Although sharp-tailed grouse are also budbers and snow roosters, these birds continued their gradual downward trend. Winter foods were plentiful but the refuge population showed a decrease of about 50 per cent from the previous year, both on the dancing ground and in production. No pinnated grouse were observed.

C. Big Game Animals:

White-tailed deer experienced one of their most difficult winters in several years. Deep snows made movements difficult except on well-established trails and though browse was adequate for the refuge population, the deer had some difficulty in getting to it. It was not uncommon to see deer in snow deeper than their legs could effectively penetrate and progress was made only through a series of leaps with pauses to rest upon the snow. Because of fairly good browse conditions brought about by recent open winters which did not concentrate deer and because of a reduced deer population through hunting on the refuge, there was little mortality on this area. One fawn was found dead and another died shortly after being brought in to refuge headquarters. Both were extremely emaciated. Some areas north of the refuge and west reported considerable losses. Deer in those areas were exhausted from efforts to move about to obtain food and many were picked up by sportsmen and others

and nursed back to health in barns and sheds. Other than those mentioned above, the refuge herd came through in fairly good condition, though mighty lean. Those in the vicinity of the refuge croplands appeared to suffer no shortages. The vitality of the deer appears to have been excellent since the spring fawn crop was one of the best in several years. Twin fawns were fairly common. The hunting season removal was only moderate and a slightly higher population went into the winter than during the previous fall. At the close of the year the deer were able to move about freely and food conditions were more than adequate.

Moose were occasional visitors to the refuge during the summer months. These animals move over considerable territory. Two were illegally shot during the deer season just south of the refuge.

Black bears were seen on several occasions during the summer, especially along the refuge entrance road. About ten of these animals used the refuge.

D. Fur Animals, Predators, Rodents and Other Mammals:

Mink and their signs were noted throughout the year along the water areas but the refuge population showed little or no change from previous years. Though the trapping take was light, the numbers of mink remained fairly stable.

Muskrats showed increased house-building activity in 1965 and the population was slightly up from recent years. Houses along the Rice River were especially common. The efforts of the refuge trapper did not appreciably affect the muskrat population and it is felt that the harvest could have been considerably higher, considering the number of rats on the refuge.

Otters were seen occasionally and their characteristic sliding trails were commonly noted in the snow. The refuge population of these wanderers is only moderate and there is no harvest contemplated.

Beaver showed increased activity during the past year and these animals could be seen regularly at several locations on the refuge. Though none are causing any problems on the refuge, the population does indicate a small harvestable surplus from some colonies. Beaver dams below the refuge are causing considerable restriction to the flow of water in the Rice River.

Weasels are a common resident of the refuge but provide little incentive to trappers because of low fur value.

Red foxes were noted on a number of occasions on the refuge and are not uncommon.

The reports of coyotes were received from deer hunters.

Bobcats are present on the refuge in small numbers.

Raccoons showed some increase and were quite commonly observed. Various control measures resulted in the removal of about 30 of these animals during the year. Principal control was in the vicinity of wood duck trap sites.

Badgers are uncommon on the refuge. One was seen at the Rice Landing.

Skunks are fairly common and about 20 were removed, especially during the spring.

Porcupines remain common on the entire refuge area and were observed frequently.

Gray squirrels were observed regularly although the population of this species is rather light. Fox squirrels were seen infrequently. Red squirrels were very commonly noted throughout the year.

Three stray cats were disposed of during the summer and early fall.

Rodent populations showed considerable increase during the past year. Meadow voles were especially abundant.

E. Hawks, Eagles, Owls, Crows, Ravens and Magpies:

Hawks, observed on the refuge during the year include red-tails, marsh hawks, rough-legs, Cooper's, sharp-shins, goshawks and sparrow hawks. Of these the sparrow hawk was most common, especially during the fall migration when they could be observed almost anywhere on the refuge. On rainy days it was interesting to see them feeding on earthworms which were brought to the surface of the ground by the rains.

Northern shrikes were quite frequently observed on the refuge during the fall and winter.

Bald eagles were most common during the spring and fall months. In the spring it was not uncommon to see a dozen or more on the ice of Rice Lake in the company of crows and gulls, feeding on the rough fish discarded during winter fish rescue operations. These eagles were predominantly young birds, not yet in adult plumage. Bald eagles were present through the summer months when two or three adults were noted from time to time. A nest is located on the west end of Rice Lake. On October 3, twelve immatures and one adult were noted on the west end of Rice Lake. During the trapping season in November one unfortunate adult bald eagle was found dead in a mink trap. This bird was turned over to Agent Pinkham for disposition.

Barred owls were most commonly seen and heard on the refuge. Great horned owls are also fairly common. Saw-whet owls are present in small numbers. One hawk owl was regularly observed during late December. Snowy owls were uncommon but were observed occasionally, especially during November. Also during November, Great Gray owls were seen several times on the north end of the refuge. These northern visitors are normally rare on the refuge, only one previous observation having been made.

Crows were very common from early spring until late fall. Ravens were especially common during the fall months, much more so than is usual. This was true throughout this general area, with flocks of up to 35 of these birds being seen off the refuge.

Magpies were also unusually common during the fall. These birds are normally only occasional visitors to the refuge.

F. Other Birds:

Evening and pine grosbeaks were especially common. Evening grosbeaks made daily trips to the residence feeders, consuming several hundred pounds of sunflower seeds. Pine grosbeaks appeared content with the seeds of ash trees and other wild foods. Purple finches were also common at the feeders during the winter and several were noted throughout the summer months. Pine siskins fed commonly on the refuge grounds. Robins appeared in greater numbers during the fall migration than they had in the previous year, as did yellow-shafted flickers. It was gratifying to note a good population of bluebirds on the refuge. Purple martins, several species of swallows and chimney swifts were common. Gray jays were common on the refuge from September to the end of the year. This bird seldom gets down this far - it's southern limit being about 30 miles

north of the refuge. Most of the birds on the refuge list were noted at some time during the year.

G. Fish:

Fish rescue operations on Rice Lake continued both at the outlet and in the lake proper until the lake went dead in February. Both lead and pumping traps were used. During the late winter period 21,338 northern pike weighing 5,317 pounds were rescued and stocked in other lakes off the refuge. Rough fish taken in the traps were free for the taking by local residents. These consisted primarily of yellow perch and bullheads, with some buffalo, dogfish, small crappies and bluegills.

High water during the spring and summer made conditions which were excellent for a good fish run into refuge waters. Northern pike fishing on the refuge fishing area brought many limit catches during the summer months for local fishermen. The older folks made up the bulk of the fishing visitors; the bridge and boat launching area proving ideally suited to their relaxed manner of dunking a minnow or cut bait.

Fish rescue crews had their operations going again well in advance of the freeze-up with initial catches rather limited but running to larger fish. Though no lunkers were taken, there were quite a number of four and five pounders removed. Since the lake control was open during the entire period, some of the larger fish had moved into the river prior to trapping operations. These are the first to leave during draw-downs here. By the end of the year the current year's hatch was moving through in fair numbers. The November and December catch was 6,622 northerns weighing 1,602 pounds. Water levels and oxygen were still up and the bulk of the run was yet to come. Most of the fish were taken in the outlet trap on Rice Lake as the northerns tend to move downstream with the dropping lake level. The catch in Mandy Lake was rather limited. Pumping had not yet been started at the end of December as this method is used only when the oxygen level has dropped to the critical point. Rough fish again ran heavily to perch and bullheads with occasional dogfish and small crappies. Pumpkin-seed sunfish were more common than the previous year. All rough fish tended to run smaller in size than in 1964.

H. Reptiles and Amphibians:

Garter snakes, snapping turtles and painted turtles compose the bulk of the refuge reptile population. Garter snakes

were very common during the summer; painted and snapping turtles were less commonly noted.

Spotted salamanders were fairly common, especially during the early fall. Leopard and mink frogs were present in large numbers.

I. Disease:

On October 1, a dead blue goose was found on Rice Lake. On October 3, fifteen blues and snows were noted. Several of these birds were frozen and specimens were submitted to the University of Minnesota and the Patuxent Research Center for examination. No reply has as yet been received from the University of Minnesota but the Patuxent report indicated that the cause of death was most likely coccidiosis. No further goose mortality was noted. The birds not sent in for examination were picked up and disposed of. The particular group of birds suffering the losses had not been on the refuge more than a couple of days and it is assumed that they were infected prior to their arrival here.

One canvasback duck wearing a band was also found dead and submitted with the geese to Patuxent. The band records showed the bird was banded on Chesapeake Bay the previous year. No definite report of the cause of death was received.

Though it is not a disease, an interesting note was the large number of birds captured for banding which have been attacked by leeches under the nictitating membrane of the eye. In most cases only one eye is involved but in some instances both eyes are completely blocked, robbing the bird of its sight. A gentle pressure is usually all that is necessary to dislodge the leech or leeches and the eyeball appears to suffer no notable damage. This condition was not as prevalent among the mallards and black ducks handled as it was with wood ducks. Relatively few divers were handled but one canvasback had both eyes affected.

III REFUGE DEVELOPMENT AND MAINTENANCE

A. Physical Development:

Work was completed on the North Bog Road with the final gravel being placed under extremely adverse conditions of cold and snow. High water conditions during the spring caused extensive damage to this road. Culverts were reset, backfilled and ripped. Gravel was hauled to complete that portion of the road

not covered by contract. This and culvert repairs required 300 yards of material hauled and placed by refuge personnel.

The break in the Rice Lake dike caused during the spring floods was repaired and the slopes seeded to grasses. Further work on this dike will be done when funds become available. A total of 1,236 yards of material was hauled in for these repairs.

The South road also suffered extensive water damage and repairs were done as funds permitted. Work such as culvert replacement and fill of washouts was necessary to make the road passable. One hundred yards of material was hauled and placed for these repairs. Sixty yards of material was used for repairs to other trails.

A cement floor was poured in one-third of the storage building at the Rice Landing. At this same site a cement base was poured and a metal grain bin was erected for storage of seed and banding bait.

A new trail and wood duck trap site was constructed along the Rice River. This required clearing, roadbed preparation and hauling of 300 yards of material.

The entrance roadside was cleared of brush and all roadsides and trails were mowed.

Equipment was maintained and repaired as required. The Jeep was painted and a new snowplow was installed on the GMC tractor.

Routine maintenance and improvements to buildings were carried out. Residence 2 was resided, some new windows installed and minor repairs made. Small buildings were reroofed and painted. Equipment building doors were painted. A new grain bin erected. A storm door was installed on Residence 68, as were two storm windows. The barn roof at Residence 3 was repaired.

A new steel fence was constructed along Highway 65 boundary and other fences were repaired. Boundary posting and hunting area posting was done as required.

Headquarters and picnic area grounds were maintained. Fill was hauled to the headquarters area to level low spots in the lawn and these were seeded. Fill was placed in sinkholes around Residence 68. Garbage was removed periodically from the picnic and fishing areas. The basement of the Peterson place was filled and the grounds landscaped.

Several holes were blasted with ANFO on the Peterson place and the channel at the Rice Landing was blasted clear of debris to allow access to the boathouse.

Farming operations were carried out as weather permitted.

The old 550 gallon fuel tank at Headquarters was removed and replaced by a new 1,000 gallon tank. Pinholes in the old tank had permitted some leakage and had allowed access of water into the tank.

Three redwood bulletin boards with glass front doors were constructed and placed at strategic locations on the refuge to give information to hunters and other visitors. New routed signs were also installed.

B. Plantings:

1. Aquatic and Marsh Plants:

None this year.

2. Trees and Shrubs:

None this year.

3. Upland Herbaceous Plants:

None this year.

4. Cultivated Crops:

Cultivated crops suffered during 1965 as a result of continued high water conditions. It was impossible to get into the fields during the previous fall either to prepare the ground or to seed fall browse crops because of excessive rain. Flood waters during the spring backed up into a portion of the field area. This, coupled with moisture from heavy winter snows, saturated the heavy clay soil and prevented access with equipment through most of the normal planting season. A small acreage of corn (4) was put in but this failed to mature. It was heavily used by deer and other wildlife in spite of this and it was not possible to find an ear in the field by the time cold weather arrived. Buckwheat was the primary crop for 1965 and even this late crop was limited by the preponderance of wet crop units. Only thirty acres of buckwheat was planted but the crop was especially good. Again, plans to harvest some of the seed for next year were spoiled by heavy fall rains.

Some early fall ground preparation for fall browse plantings was just underway when rains curtailed this operation and made fall plantings impossible. Buckwheat crops were well

used by all species of wildlife in the refuge field area. Waterfowl populations were relatively low but fair use was made of the fields by both ducks and geese.

Idle strips were examined periodically to determine their value to wildlife and it was found that the predominance of use by sharp-tailed grouse and mourning doves was in these strips. These contained grasses, scattered growths of volunteer small grains and a few weeds, remaining relatively open during the first year.

Clover plantings produced luxurious growth but only light seed. It was planned to have the first growth cut after the waterfowl nesting season and clip these units for fall browse use but local farmers were reluctant to take the crop in its later stages. It was therefore necessary to cut these units as moisture conditions permitted the use of refuge equipment on them. Fall use was limited to a small number of waterfowl but good numbers of deer.

One of the major problems of farming on this refuge has been the preponderance of rocks in the fields. A rock picker was purchased during the fall and should prove of major value in cleaning up the farm units. A demonstration showed that it can do the job. The elevating mechanism will prove of value in loading rock immediately for use as rip-rap material.

C. Collections and Receipts:

High waters on the refuge during the critical period resulted in only scattered light stands of wild rice which were insufficient to justify harvest. No other species were collected or received.

D. Control of Vegetation:

Most of the vegetative control was through mowing. Only a small patch of willows at the Rice Landing was treated with 2,4-D and 2,4,5-T with a hand sprayer. Results indicated a good kill and the area was later mowed.

E. Planned Burning:

The entire area covered by the burning plan for 1965 was under water during the planned burning period. It is hoped that this control can be carried out in 1966 but moisture conditions indicate another possible heavy runoff.

F. Fires:

There were no fires on the refuge during 1965. A new fire plan and cooperative agreement with the State of Minnesota were placed into effect during the year.

IV RESOURCE MANAGEMENT

A. Grazing:

Two permittees grazed a total of 27 animals for a total of 150 AUM's.

B. Haying:

Hay production was up from 1964. Weather conditions were not very good for cultivated crops but ideal for hay growth. One permittee did not apply for his hay unit making a total of seven permittees. The total harvest amounted to 287 tons which was 87.5 tons more than 1964. Newly purchased lands will add a considerable amount of hay land for next year's cutting. As usual, all hay units are spoken for in 1966.

C. Fur Harvest:

Mr. Harold Olson has been the sole refuge trapper for the last nine or ten years. His total take for the 1965 season which ran from November 6 to December 19, 1965 is as follows:

Mink	8
Muskrats	62
Raccoon	11

The fur animal population on Rice Lake is not too high but it was felt that the muskrat and raccoon take could easily have been doubled with little extra effort. It is hard to get trappers to work the refuge due to the arrangement for sharing equal with the Government for mink and muskrats. Most trappers think this is rather steep and prefer to trap elsewhere.

Under the new arrangement for selling furs the Government share was sold to a local fur buyer for a much better price than was previously obtained under the contract with the Hudson's Bay Company Fur Sales, Inc. Refuge fur sales are as follows:

31 muskrats	@ \$	1.25	\$	38.75
1 mink	@	18.00		18.00
1 mink	@	12.00		12.00
2 mink	@	10.00		20.00
			\$	88.75

D. Timber Removal:

Three permittees cut a total of 298 cords of aspen which was sold as pulpwood. There were no permits issued for cutting of timber suitable for sawlogs.

E. Commercial Fishing:

None.

F. Other Uses:

None.

V FIELD INVESTIGATION OR APPLIED RESEARCH

A. Waterfowl Banding:

The refuge banding program involved a continuation of the Dew Line banding operations and the wood duck banding. In addition to these was the banding of Canada geese produced on the refuge. Light fall populations of waterfowl hampered the Dew Line program and though catches were good, after a short period the birds taken were primarily retraps.

The following is a record of the waterfowl banded on the refuge during 1965:

<u>Species</u>	<u>Adult</u>		<u>Immature</u>		<u>Total</u>
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	
Mallard	57	211	121	145	534
Black Duck	55	26	31	18	130
Pintail	2	4	2	1	9
Widgeon	1	3	3	2	9
Wood Duck	52	7	49	43	151
Ringed-neck	1	-	1	-	2
Green-winged Teal	-	-	-	1	1
Blue-winged Teal	-	1	-	-	1
Canada Goose	2	1	5	18	26
TOTALS	170	253	212	228	863

B. Canada Geese:

As previously mentioned, the refuge flock of Canada geese showed gratifying nesting success. The 200 young produced represented the record high for this area to-date. Nesting above the high water levels and lack of predation were primary factors in this high success. Only ten pinioned birds remained on the refuge. They were fortunate to have open water even during the winter months at the springs and outlet of Rice Lake. Rough fish, especially small perch, were taken readily as food by the geese at winter fish rescue operations. The thirty or so birds which chose to remain on the refuge during the winter months were a sort of breath of spring to refuge visitors.

VI PUBLIC RELATIONS

A. Recreational Uses:

Hunting, fishing and sightseeing were the primary public uses of the refuge during 1965. Rough fish from winter northern pike rescue operations were again made available to the public whose prime interest was in the bullheads. Summer fishing proved a daily attraction with northern pike biting very well throughout the open refuge season.

Bird watching attracted a fairly large number of persons to the refuge both during the winter and summer months. Many who would not qualify as bird watchers made numerous trips to the refuge to observe the Canada geese from the time they were hatched until they were able to fly. Sometimes these birds were traffic-stoppers as they picked gravel or loafed on the entrance road.

A number of persons were drawn to the area to photograph these and other forms of wildlife. Local residents made this a regular Sunday afternoon outing.

Picnicking at the refuge picnic grounds showed an increase over the previous year. Some of the more eager and hardy families were using the area when temperatures in spring and fall were enough to discourage most people.

B. Refuge Visitors:

See attached list.

C. Refuge Participation:

<u>Group</u>	<u>Date</u>	<u>Participation</u>
Tamarack 4-H Club	1/13	Film and talk
Aitkin Baptist Church	1/19	Film
Hill City Sportsmen's Club	1/25	Slides and talk
Local residents	3/19	Film
Fleming 4-H Club	3/20	Film and talk
District, Area & Regional Foresters	4/22	Draft fire agreement
Duluth Newspaper Reporter	5/15	Photos-Feature-Geese
McGregor Grades 1 & 2	5/17	Refuge tour
Barnum High School Biology Classes	5/18	Talk and slides
Jacobson Sportsmen's Club	6/7	Film and talk
Explorer Scouts & Leaders	6/17	Merit badge assistance
Long Lake Conservation Center	7/19	Summer program
Long Lake Conservation Center	7/20	Wildlife-Ecology studies
Long Lake Cons. Center Boys	8/3	Wildlife-Ecology studies
Riverside Liberty 4-H Club	8/3	Refuge activities orientation
Long Lake Cons. Center Boys	8/17	Wildlife-Ecology studies
Long Lake Cons. Center Boys	8/31	Wildlife-Ecology studies
State & Federal Personnel	9/21	Rolligon demonstration
Riverside Liberty 4-H Club	9/26	Refuge tour
McGregor 1 and 2 grades	10/13	Refuge tour
Riverside Liberty 4-H Club	11/9	Lecture and film
McGregor Development Ass'n.	11/18	Report of activities
McGregor Merchants' Club	11/30	Talk and slides
Aitkin Newspaper	12/17	Release- Bureau Activities
Aitkin County Auditor	12/17	Deliver Receipts refund

B. Refuge Visitors:

<u>Name</u>	<u>Organization</u>	<u>Date</u>	<u>Purpose</u>
F. H. Davis	Bureau	1/20/65	Courtesy call
Urban C. Nelson	Bureau	1/20/65	Courtesy call
William Cushman	Bureau	1/25/65	Land appraisals
Ed Ballman	State Forester	2/4/65	Fire control
Orville Schultz	State Forester	2/4/65	Fire control
C.R. Alexander	Agassiz Refuge	2/6/65	Courtesy call
Wes Simons	State Forestry Division	2/18/65	Fire control
Ed Ballman	State Forester	2/18/65	Fire Control
Orville Schultz	State Forester	2/18/65	Fire control
H. Kitzrow	State Forester	2/25/65	Fire control
Harry Pinkham	U.S.G.M.A.	3/5/65	Enforcement
Wm. Aultfather	Bureau	3/12/65	Timber Management
James Gritman	Necedah Refuge	3/12/65	Timber Management
Harry Pinkham	U.S.G.M.A.	4/5/65	Equipment inquiry
William Cushman	Bureau	4/8-9/65	Land acquisition
E. Vaurio	Bureau Engineer	4/20-21/65	
E. Dolling	Bureau Engineer	65	Water Management
Harry Pinkham	U.S.G.M.A.	4/21/65	Pick up equipment
James Spangler	State Forester	4/22/65	Coop. Fire Agreement
H. Kitzrow	State Forester	4/22/65	" " "
Ed Ballman	State Forester	4/22/65	" " "
Archie Hakala	State Forester	4/22/65	" " "
James Marcum	State Game Warden	4/26/65	Public Relations
Wm. Ellerbrock	U.S.G.M.A.	4/28/65	Surveys- Equip.
W.W. Morgan	Duluth Herald-Tribune	5/3/65	Photos & story
James Marcum	State Game Warden	5/14/65	Cons. Center
R. W. Burwell	Regional Director	5/16/65	Refuge Tour
Dan Anderson	U. of Wisconsin	5/24/65	Pesticides study
Robert Bigelow	Boy Scouts- Rochester	6/17/65	Cons. caravan
R. Timmerman	Swan Lake Refuge	6/10/65	Courtesy call
J. Lundeen	Bureau Engineer	6/12-13/65	Stay at cabin
Mr. & Mrs.	Long Lake Conservation		Orientation for
Don Wagner	Center Director & wife	6/14/65	camp training
Dick Rud	Boy Scouts- Rochester	6/17/65	Cons. caravan
Louis Nichols	Izaak Walton League	6/17/65	Cons. caravan
V. Elving Anderson	Professor- U. of Minn.	6/26/65	Tour area
R. Eastman	Bureau	7/9/65	Excess Property
J. Akers	State Game Warden	7/26/65	B.W. Teal season
Robert Wright	Tamarack Refuge	7/29/65	Deliver tools
D. V. Gray	Upper Mississippi Refuge	7/30/65	Deliver signs & pick up tools
F. R. Martin	Bureau	8/5-6/65	Refuge inspection
William Cushman	Bureau	9/2-3/65	Land acquisition
Dr. Wm. Green	Upper Mississippi Refuge	9/14/65	Biological projects
Don Wilson	State Forester	9/21/65	Swamp Vehicle Demonstration

B. Refuge Visitors (Continued):

<u>Name</u>	<u>Organization</u>	<u>Date</u>	<u>Purpose</u>
James Spangler	State Forester	9/21/65	Swamp vehicle
C. Carlson	State Forester	9/21/65	demonstration
A. Appledon	State Forester	9/21/65	" "
L. Grebbe	State Forester	9/21/65	" "
M. C. Hammond	Lower Souris Refuge	9/21/65	" "
R. Town	Lake Andes Refuge	9/21/65	" "
S. Nelson	S.C. Nelson Co. Park Ridge, Ill.	9/21/65	Demonstrate Rolligon swamp vehicles
H. F. Wulf	State Game Manager	9/23/65	Area orientation
James Marcum	State Game Warden	9/28/65	Courtesy call
Jim Bryant	State Warden trainee	9/28/65	Courtesy call
Robert Britt	Central Office	9/28/65	Inspection
Wm. Aultfather	Bureau Forester	9/28/65	Inspection
E. Crozier	Bureau	10/11/65	Inspection
E. Trecker	Bureau	10/11/65	Inspection
Ray Ostlie	G. S. A.	10/12/65	Excess property
R. W. Burwell	Regional Director	10/15/65	Refuge projects
D. Umberger	Bureau	10/15/65	Refuge projects
A. Holloway	Bureau (Retired)	10/15/65	Refuge projects
Harry Pinkham	U.S.G.M.A.	10/20/65	Enforcement
C.R. Alexander	Agassiz Refuge	10/21/65	Excess property
Wm. Ellerbrock	U.S.G.M.A.	10/23/65	Enforcement
John C. Carlsen	Sherburne Refuge	11/1/65	Administrative work
LeRoy Angell	State Game Manager	11/5/65	Kimberly area Devel.
Survey Crew	Bureau	11/5/65	Survey Eigsberg tract
William Cushman	Bureau	11/8-9/65	Land acquisition
Milton Stenlund	State Game Manager	11/10/65	Kimberly area
LeRoy Angell	State Game Manager	11/10/65	development
Harry Pinkham	U.S.G.M.A.	11/12-	Deer season
Wm. Ellerbrock	U.S.G.M.A.	14/65	patrol
A. Cary & Crew	Minn. Cons. Dept.	11/16/65	Water Management
James Marcum	State Game Warden	11/16/65	Enforcement
G. Olson & Crew	State Fish Rescue	11/16/65	Northern Pike rescue
Harry Pinkham	U.S.G.M.A.	11/26/65	Courtesy call
Ted Upgren	Tamarac Refuge J.C.	11/29/65	Equipment pickup
Loyal Tingelstad	Tamarac Refuge J.C.	11/29/65	Equipment pickup
Orville Schultz	State Forester	11/30/65	Timber Management
W. Gulbranson	State Fisheries	12/17/65	Fish rescue
C. Munson	State Fisheries	12/17/65	Fish rescue

In addition there were numerous other calls by the local game wardens, fisheries personnel, refuge permittees and local residents.

In addition, many meetings or other contacts were held with State and local officials or other groups relative to refuge activities. This includes a meeting with State biologists regarding the feasibility of the Kimberly impoundment.

The Refuge Manager assumed 4-H leadership in conservation and his wife was 4-H leader in cooking for the Riverside Liberty 4-H Club.

D. Hunting:

Deer hunting was permitted during the firearms season in November and again during the December bow and arrow season. There was no post-season interest by archers and the gun season showed reduced participation from the previous year. Adverse publicity on deer mortality during the winter of 1965 may have had a considerable effect upon the number of deer hunters in this area. Most of them headed for other areas with more rosy predictions for success. About 1,100 gun hunters took a known 60 deer during the nine day season. The vegetation was heavy and had not yet been knocked down by heavy winter snows. Most hunters who were willing to get out and work reported several brief visual contacts with deer but blamed heavy cover for their lack of success. Checks of deer populations during late November and December showed an excellent carryover, by all indications higher than that of the previous year. Habitat conditions are adequate for the deer now on the refuge.

In direct contrast to the report of a year ago, waterfowl hunting couldn't have been much worse. Some fair success on blues, snows and little Canadas was experienced early in the season and a few of the larger Canadas (about 20) were also taken. Ducks in any appreciable numbers simply did not come through this part of the state and most of the local hunters soon tired of fruitless trips and turned to other pursuits. Water areas were in excellent condition but the birds were not there. Regular patrols showed no hunters on favored shooting areas throughout most of the season.

E. Violations:

The following apprehensions were made by refuge personnel and U.S.G.M.A.'s Pinkham and Ellerbrock.

<u>Name & Address</u>	<u>Violation and Fine</u>
Leonard Olds 207 SW 7th St. Brainerd, Minn.	Taking deer in refuge during closed season. \$100 fine plus \$4 costs.
Robert N. Hanson Rt. 2 Palisade, Minn.	Having over the possession limit of mallards. \$10 fine - no costs.
Kenneth R. Girard 3621 Harding St. N.E. Minneapolis, Minn.	Attempting to take deer while shooting into refuge closed area. \$100 fine plus \$4 costs.
Ethelyn Mae Girard 3621 Harding St. N.E. Minneapolis, Minn.	Attempting to take deer while shooting into refuge closed area. \$100 fine plus \$4 costs.
Mahlon C. Hume 2832 Idaho St. Minneapolis, Minn.	Shooting at deer from roof of auto & shooting into refuge closed area. \$100 fine plus \$4 costs.
Gary S. Wicklander 801 19th Ave. N.E. Minneapolis, Minn.	Attempting to take deer while shooting into refuge closed area. \$100 fine plus \$4 costs.

F. Safety:

There were no accidents to refuge personnel during the year. The refuge crew is to be commended for a fine SAFETY record and attitude. The station record stands at 787 days with no lost time accidents.

Safety meetings and discussions were held periodically throughout the year. Emphasis was placed on the effect of good working practices on the individual and the team, with rewards realized both in personal well-being and in performance evaluation.

VII OTHER ITEMS

A. Items of Interest:

Mr. Thornbloom is credited with preparation of Sections I and IV of this report.

With the opening of the Long Lake Conservation Center, the results of much time and labor by refuge personnel over the past couple of years in helping to equip this camp were realized. Summer sessions of ten days each, with 30 boys in each group included a full day on the Rice Lake Refuge with instructions on refuge operations being given by refuge personnel.

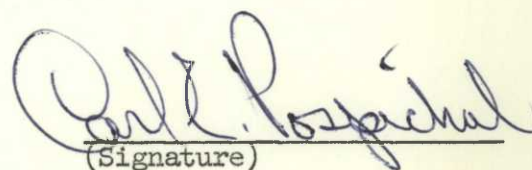
Mr. Thornbloom spent from March 28 to May 1, 1965 assisting Dr. Wm. Green at the Refuge Manager's Training School located at Arden Hills.

Mr. Thornbloom was reclassified from Refuge Clerk to Wildlife Technician. It is hoped that an appropriate grade increase can be secured as soon as restrictions are lifted.

Photographs were taken and processed by the Refuge Manager.

SIGNATURE PAGE

Submitted by:



(Signature)

Carl E. Pospichal
Refuge Manager
Title

Date: February 18, 1966

Approved, Regional Office:

Date: March 14, 1966


(Signature)

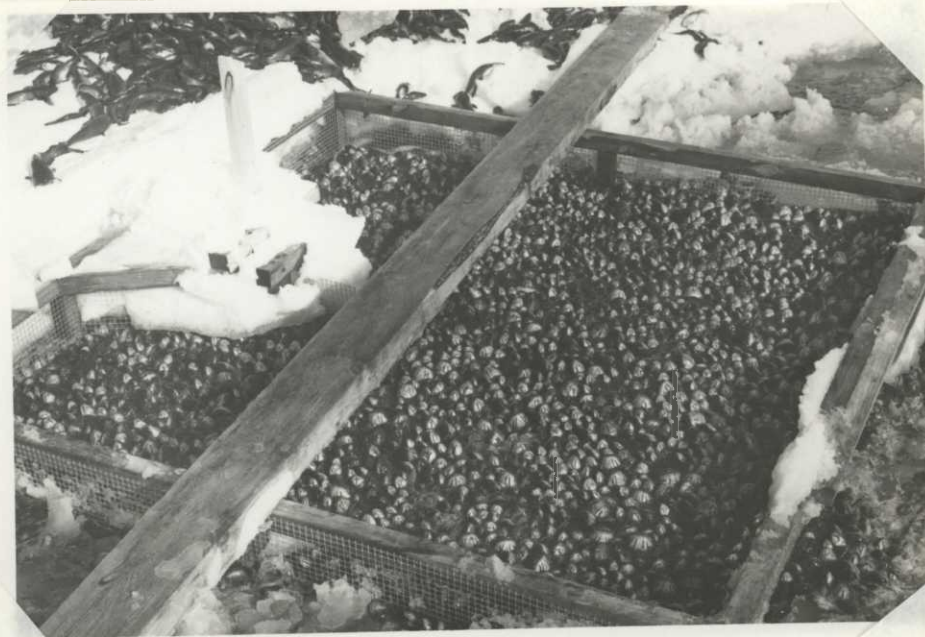
Asst.
Regional Refuge Supervisor

65-1

Winter fish rescue work can be a cold job.

65-2

Bullheads in trap - standing room only.



65-3

The path to the office in mid-winter.

65-4

In early April things were still pretty rugged.



65-5

One dead fawn was found in the woods on April 5.

65-6

Three otters passed this way.



65-7

The Rice River Control ran full during the spring.

65-8

Northern pike and perch swam over the Fishtrap bridge.



65-9

Leonard Burd inspected the Rice Lake Dike during the flood.

65-10

The Rice Lake Dike was repaired, seeded and mulched.



65-11

The new North Bog Road suffered flood damage also.

65-12

The North Bog Road as seen from the air during the flood.



65-13

The new rock picker was demonstrated on
the west fields.

65-14

Loading a ton of rock can be easy on the
back.



65-15

&

65-16

A sleepy nighthawk posed for a couple of pictures.

Excellent photos
7



65-17

Rolligon demonstration; the going was tough enough but it had to rain too.

65-18

An adaptation of the frog cage was tried for duck banding; the best yet.



65-19

The new bulletin boards were a big help
to refuge visitors.

*Nice - Bureau end or flying
gone in gable end would
improve it 7*

65-20

The Long Lake Conservation Center at rest.

